Hypothesis Concerning Electron Spin Momentum Observed Shortly After Achieving Near-Absolute Zero

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Introduction

Aalto University conducted an experiment in late 2022 in which it was observed that Cooper Pairs were breaking in near-absolute zero superconductors provided that current was transmitted through the material within the first ~15 seconds after reaching minimum temperature. This breakage; in this author's mind; was due to a type of spin momentum that has as a consequence that these electrons will continue to emit their own discrete magnetism so long as they are spinning and that Cooper Pairs may be disrupted by this emission.

At that time, however, this author did not explain in detail the nature of that momentum, which is obviously quite distinct from the type of momentum in a flywheel, particularly since it takes very little time for this spin to cease from the time that the force driving it is suspended. Although some of the assumptions and deductions of this abstract have their origin in previously published work by this author, the following abstract is novel in that it addresses for the first time the underlying impetus for electron spin generally; a phenomenon in the literal sense until this time.

Abstract

The aforementioned behavior of orbital electrons under ultra-cold conditions can be explained by a model of physics in which every electron, in addition to being a dipole magnet, is also a voltage cell with variable charge (and not the fixed charge postulated by the current Standard Model.) Furthermore, it must also be true that the repeated approach of positively charged protons associated with the thermal oscillation of nuclei in atoms toward electrons results in a surplus of neutrino density that results in overcharge of those electrons.

It stands to reason, therefore, that all electrons that are spinning whilst in orbit of a nucleus do so because they are in an overcharged state. It furthermore stands to reason that observed temperature-dependent properties of electrons are, in reality, merely the indirect result of changes to the mechanical behavior of the nuclei they orbit with neutrinos being the lever that connects temperature to electrons, which are fundamentally agnostic to temperature.

When (near) absolute zero is reached, oscillations in the nucleus that would normally ensure a charge surplus cease. The low temperature does nothing to restrict the electron from expelling excess energy in the form of magnetism. This expulsion drives electron spin. Since it takes some modest amount of time

for this excess charge to bleed off, magnetic moment continues to disrupt Cooper Pairs even after the minimal temperature is attained.

An electron orbiting an atom with a temperature of absolute zero is equally capable as its room temperature counterparts of both emitting and absorbing electrical energy in the form of neutrinos, however, as the proximity of the electrons orbiting said nuclei remain constant, charge remains constant as does neutrino density and the prevailing direction from which neutrinos flux. This means that not only does spin direction remain stable, but spin itself ceases as the ordinarily commonplace fluctuations in neutrino availability do not exist at these temperatures.

Conclusion

This electron behavior only further supports previously elucidated hypotheses concerning neutrino dynamics.